

**REISSUE APPLICATION DECLARATION  
AND POWER OF ATTORNEY**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

We are an original, first and joint inventor of the subject matter which is described and claimed in United States Patent No. 6,063,161, granted May 16, 2000, and for which a reissue patent is sought on the invention entitled **FLOW REGULATED PRESSURE SWING ADSORPTION SYSTEM**, the specification of which is attached hereto.

I have reviewed and understand the contents of the above-identified specification, including the claims.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I believe the original patent to be wholly or partly inoperative or invalid by reason that the patent claims less than I had a right to claim in the patent. Thus, I hereby indicate my intent to seek broadened claims. My intent to seek broadened claims also is indicated in the Preliminary Amendment filed herewith. At least one error upon which reissue is based is described below. I also hereby affirm that this reissue application was filed diligently upon discovery of the errors listed below.

At least one error upon which reissue is based is described as follows:

Claim 1, for example, includes certain features that are not required for practicing the broadest aspects of the invention, such as requiring that a supply purge be provided by a light reflux gas withdrawn after all pressure equalizations, as referred to in column 29, lines 34-41. This unnecessary limitation renders the patent partly inoperative by unduly limiting the claim. The error arose in the prosecution of the original application, which resulted in the issuance of the patent.

All errors corrected in this reissue application arose without any deceptive intention on the part of the applicant or the inventors.

I hereby appoint the practitioners associated with the customer number provided below to prosecute this application, to file a corresponding international application, and to transact all business in the Patent and Trademark Office connected therewith:

Customer Number

**24197**  
Klarquist Sparkman

Name	Reg. No.	Name	Reg. No.
BENDERLY, Kenneth M.	51,453	ORR, David E.	44,988
BIBLE, Patrick M.	44,423	PETERSEN, David P.	28,106
BUNKER, Gillian	47,461	POLLEY, Richard J.	28,107
CALDWELL, Lisa M.	41,653	RINEHART, Kyle B.	47,027
CARLSON, Anne	47,472	RUPERT, Wayne W.	34,420
GIRARD, Michael P.	38,467	RYBAK, Sheree L.	47,913
HAENDLER, Jeffrey B.	43,652	SCOTTI, Robert F.	39,830
HARDING, Tanya M.	42,630	SIEGEL, Susan Alpert	43,121
JAKUBEK, Joseph T.	34,190	SLATER, Stacey C.	36,011
JONCUS, Stephen J.	44,809	STEPHENS Jr., Donald L.	34,022
JONES, Michael D.	41,879	STUART, John W.	24,540
KLARQUIST, Kenneth S.	16,445	VANDENBERG, John D.	31,312
KLITZKE II, Ramon A.	30,188	WHINSTON, Arthur L.	19,155
LEIGH, James S.	20,434	WIGHT, Stephen A.	37,759
MC LEOD, Richard D.	46,921	WINN, Garth A.	33,220
MAURER, Gregory L.	43,781	ZASTROW, Devon J.	50,206
NOONAN, William D.	30,878		

I hereby grant the law firm of Klarquist Sparkman, LLP, the power to insert on this Combined Declaration and Power of Attorney any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for submitting this document.

Address all telephone calls to Stacey C. Slater, Esq. at telephone number (503) 226-7391.

Address all correspondence to the address associated with the customer number provided below:

Customer Number

**24197**  
Klarquist Sparkman

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of First Inventor: Bowie G. Keefer

Inventor's Signature

Bowie G. Keefer

8 Jan 03  
Date

Residence: 4324 West 11<sup>th</sup> Avenue, Vancouver, B.C., Canada V6R 2M1

Citizenship: Canadian

Post Office Address: 4324 West 11<sup>th</sup> Avenue, Vancouver, B.C., Canada V6R 2M1

Full Name of Second Inventor: David G. Doman

Inventor's Signature

D. G. Doman

7 Jan. 2003  
Date

Residence: 5775 191A Street, Surrey, B.C., Canada V3S 7M8

Citizenship: Canadian

Post Office Address: 5775 191A Street, Surrey, B.C., Canada V3S 7M8

## REISSUE APPLICATION DECLARATION BY THE ASSIGNEE

I, Edward J. Rode, hereby declare that:

My residence and citizenship are stated below next to my name.

I am authorized to act on behalf of assignee, QuestAir Technologies, Inc., and the title of my position with said assignee is Vice President of Advanced Development.

In accordance with Title 37, Code of Federal Regulations, § 3.73, I hereby certify that I have reviewed the evidentiary documents with respect to the assignee's ownership of United States Patent No. 6,063,161, Keefer et al., entitled **FLOW REGULATED PRESSURE SWING ADSORPTION SYSTEM**, issued May 16, 2000, and that, to the best of my knowledge and belief, the entire title to the patent is vested in QuestAir Technologies, Inc. The assignee listed on Patent No. 6,063,161 on issuance was SoFinov Société Financière d'Innovation, Inc., which then assigned its rights to Questor Industries, Inc., which, as indicated by the attached Certificates of Amendment, is the corporate predecessor to Quest Air Gases Inc., which in turn is the corporate predecessor to QuestAir Technologies, Inc., the current patent assignee.

I believe Bowie G. Keefer and David G. Doman to be the original, first and joint inventors of the subject matter which is described and claimed in United States patent No. 6,063,161, granted May 16, 2000, for which a reissue patent is sought on the invention entitled **FLOW REGULATED PRESSURE SWING ADSORPTION SYSTEM**, the specification of which is attached hereto.

I have reviewed and understand the contents of the above identified specification, including the claims.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I verily believe the original patent to be wholly or partly inoperative or invalid by reason that the patent claims less than the patentees had a right to claim in the patent.

Claim 1, for example, includes certain features that are not required for practicing the broadest aspects of the invention, such as requiring that a supply purge be provided by a light reflux gas withdrawn after all pressure equalizations, as referred to in column 29, lines 34-41. This unnecessary limitation renders the patent partly inoperative by unduly limiting the claim. The error arose in the prosecution of the original application, which resulted in the issuance of the patent.

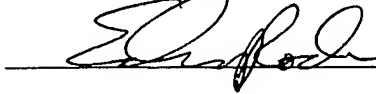
All errors corrected in this reissue application arose without any deceptive intention on the part of the applicant or inventors.

I hereby grant the law firm of Klarquist Sparkman, LLP, the power to insert on this Declaration any further information which may be necessary or desirable in order to comply with all applicable legal requirements, including the rules of the United States Patent and Trademark Office, for submitting and recording this document.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name: Edward J. Rode

Signature



11/7/03  
Date

Residence: 2926 140B Street, Surrey, B.C., Canada V4PS 2J8

Citizenship: American

Post Office Address: 2926 140B Street, Surrey, B.C., Canada V4PS 2J8

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Keefer et al.

Art Unit: 1724

Application No. 10/150,784

Filed: May 16, 2002

For: FLOW REGULATED PRESSURE SWING  
ADSORPTION SYSTEM

Examiner: Robert Spitzer

Date: February 5, 2003

CERTIFICATE OF MAILING

I hereby certify that this paper and the documents referred to as being attached or enclosed herewith are being deposited with the United States Postal Service on \_\_\_\_\_ as First Class Mail in an envelope addressed to: COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231.

\_\_\_\_\_  
Attorney for Applicant

COMMISSIONER FOR PATENTS  
WASHINGTON, D.C. 20231

**CONSENT OF ASSIGNEE FOR FILING OF REISSUE PATENT APPLICATION**

In accordance with Title 37, Code of Federal Regulations, Section 1.172, QuestAir Technologies, Inc., assignee of the entire and undivided interest in U.S. Patent No. 6,161,063, entitled **FLOW REGULATED PRESSURE SWING ADSORPTION SYSTEM**, consents to the filing of reissue application No. 10,150,784, the specification of which was filed May 16, 2002.

I am authorized to act on behalf of assignee, QuestAir Technologies, Inc., and the title of my position with said assignee is Vice President of Advanced Development.

In accordance with Title 37, Code of Federal Regulations, § 3.73, I hereby certify that I have reviewed the evidentiary documents, as filed in the present application May 16, 2002, with respect to the assignee's ownership of United States Patent No. 6,063,161, Keefer et al., entitled **FLOW REGULATED PRESSURE SWING ADSORPTION SYSTEM**, issued May 16, 2000, and that, to the best of my knowledge and belief, the entire and undivided title to the patent is vested in QuestAir Technologies, Inc.

Executed at BURNABY, B.C. on the 7th day of FEBRUARY, 2003.

By: \_\_\_\_\_

Name: Edward J. Rode

Title: Vice President, Advanced Development, QuestAir Technologies, Inc.

**IN THE UNITED STATES PATENT AND TRADEMARKS OFFICE**

27 September 2000

To: The Commissioner of Patents and Trade-Marks  
Washington, D.C. 20231  
U.S.A.

Attention: Ms. Joyce Johnson  
Manager - Assignment Division

Dear Madam:

**PETITION TO EXPEDITE RECORDATION OF ASSIGNMENT**

The Petitioner respectfully petitions the Commissioner for the recordation of the attached assignment on an expedited basis for US Patent Nos. 4,702,903; 4,816,121; 4,968,329; 5,082,473; 5,096,469; 5,256,172; and 6,083,161, as set out on the attached Assignment Recordal Sheet, on the basis that the recordal is a condition of a business arrangement which is scheduled to be completed this week.

The Petitioner authorizes the Commissioner to charge Deposit Account 07-1750 for the requisite fee of \$120, including any additional fees required by this petition.

The Petitioner's undersigned patent agent can be reached by telephone at (416) 862-4425.

Respectfully submitted,



Robert J. Graham  
Reg No. 43,430

RJG:acs  
Encl.

INTELLECTUAL PROP. 0253854\_1  
September 27, 2000

**BEST AVAILABLE COPY**

**ASSIGNMENT OF PATENTS**

THIS ASSIGNMENT MADE AS OF JUNE 9, 1997.

AMONG: **BOWIE G. KEEFER**, Businessman, of 4324 West 11th Avenue,  
Vancouver, British Columbia, V6R 2M1  
Facsimile No. (604) 222-5509

("Keefer")

AND: **HIGHQUEST ENGINEERING INC.** a body corporate, having  
an office at 3650 Westbrook Mall, Vancouver, British Columbia,  
V6S 2L2  
Facsimile No. (604) 222-5509

(the "Borrower")

AND: **SOFINOV SOCIÉTÉ FINANCIÈRE D'INNOVATION INC.**,  
a body corporate, having an office at 1981 McGill College Avenue,  
Montreal, Quebec, H3A 3C7  
Facsimile No. (514) 847-2628

(the "Assignor")

AND: **QUESTOR INDUSTRIES INC.**, a body corporate, having an  
office at 3650 Westbrook Mall, Vancouver, British Columbia,  
V6S 2L2  
Facsimile No. (604) 222-5509

(the "Assignee")

**WHEREAS:**

- A. The Borrower and the Assignor entered into a loan agreement dated June 21, 1996 pursuant to which the Assignor lent to the Borrower the sum of \$CAD250,000.00 (the "Loan") on the terms therein set forth;
- B. It was a condition precedent to the making of the Loan that each of Keefer and the Borrower execute and deliver an Assignment of Patents ("Assignment") to the Assignor, which Assignment was executed on June 26, 1996;
- C. Prior to execution of the Assignment, Keefer was the legal owner of the inventions



-2-

described in the Patents and Patent Applications listed on the attached schedule (herein referred to as the "Inventions") and the Borrower was the beneficial owner of such Inventions;

- D. The Borrower has repaid the Loan in full; and
- E. The Borrower is entitled to a discharge or reassignment of all security granted by the Borrower to the Assignor to secure repayment of the Loan, which includes the Assignor reassigning the Inventions to the Borrower, or as directed by Keefer and the Borrower.

KEEFER AND THE BORROWER HEREBY DIRECT that the Assignor assign its entire right, title and interest in and to the Inventions and the Patents and Patent Applications in all countries to the Assignee.

NOW THEREFORE, to all whom it may concern be it known that for and in consideration of the sum of one dollar (\$1.00) to it in hand paid by the Assignee, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Assignor hereby sells, assigns and transfers to the Assignee, its successors and assigns, its entire right, title and interest in and to the Inventions, Patents and Patent Applications in all countries and any continuations and divisions thereof, and all Letters Patent that may be obtained therefor in all countries.

AND the Assignor hereby undertakes, without liability, at any time upon request to do everything legally possible to assist the Assignee in the filing and prosecution of any patent application relating to the Inventions in any country, to sign such documents and do such things as may be required to give effective legal and registered title of the Assignee to the Inventions in any country, all without further consideration but at the expense of the Assignee.

IN WITNESS WHEREOF the parties hereto have hereunto executed this Assignment the year and day first above written.

SOFINOV SOCIÉTÉ FINANCIÈRE  
D'INNOVATION INC.

By: Name: Denis DrouinCapacity: PRESIDENT

by

Name: MARCE PARPATECapacity: VICE-PRESIDENT

HIGHQUEST ENGINEERING INC.

By: \_\_\_\_\_

Name: \_\_\_\_\_

Capacity: \_\_\_\_\_

10/11/00 18:00 FAX 416 882 7881

09/11/00 15:11 P.008/019

0009 089 0010

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- 2 -

described in the Patents and Patent Applications listed on the attached schedule (herein referred to as the "Inventions") and the Borrower was the beneficial owner of such Inventions;

- D. The Borrower has repaid the Loan in full; and
- E. The Borrower is entitled to a discharge or reassignment of all security granted by the Borrower to the Assignor to secure repayment of the Loan, which includes the Assignor reassigning the Inventions to the Borrower, or as directed by Keefer and the Borrower.

KEEFER AND THE BORROWER HEREBY DIRECT that the Assignor assign its entire right, title and interest in and to the Inventions and the Patents and Patent Applications in all countries to the Assignee.

NOW THEREFORE, to all whom it may concern be it known that for and in consideration of the sum of one dollar (\$1.00) to it in hand paid by the Assignee, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Assignor hereby sells, assigns and transfers to the Assignee, its successors and assigns, its entire right, title and interest in and to the Inventions, Patents and Patent Applications in all countries and any continuations and divisions thereof, and all Letters Patent that may be obtained therefor in all countries.

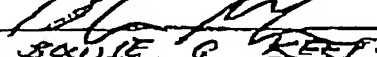
AND the Assignor hereby undertakes, without liability, at any time upon request to do everything legally possible to assist the Assignee in the filing and prosecution of any patent application relating to the Inventions in any country, to sign such documents and do such things as may be required to give effective legal and registered title of the Assignee to the Inventions in any country, all without further consideration but at the expense of the Assignee.

IN WITNESS WHEREOF the parties hereto have hereto executed this Assignment the year and day first above written.

**SOFINOV SOCIÉTÉ FINANCIÈRE  
D'INNOVATION INC.**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Capacity: \_\_\_\_\_

**HIGHQUEST ENGINEERING INC.**

By:   
Name: JULIE C. KEEFER  
Capacity: PRESIDENT

Y15412.007

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GOWLINGS

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- 3 -

QUESTOR INDUSTRIES INC.

By: *[Signature]*Name: *Carl Hunter*Capacity: *President*WITNESS to the signature  
of Bowie G. Keefer:*Sharon A. Price 12/1/00**[Signature]*  
BOWIE G. KEEFER

- 4 -

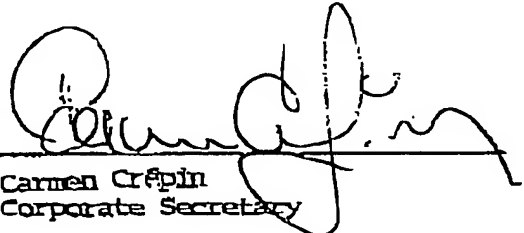
**AFFIDAVIT OF EXECUTION OF AN ASSIGNMENT EXECUTED  
BY A COMPANY HAVING A CORPORATE SEAL**

I, Carmen Crépín, Corporate Secretary, of  
(NAME) (CAPACITY)  
Sofinov, Société financière d'innovation inc., whose full post office address is  
1981 McGill College Avenue, Montréal, make oath and say:

That the seal affixed to the attached assignment is the seal of the said company and has been properly affixed in accordance with the constitution and by-laws of the said company, and has been verified in accordance therewith under the hands of the directors or officers whose signatures appear on the assignment in thereof.

Sworn before me at Montreal, Quebec,  
Canada this 26th day of May, 1997.

Guella Lapierre, Avocate  
Notary Public (Avocate)

  
Carmen Crépín  
Corporate Secretary

- 6 -

Schedule of Patents and Patent ApplicationsCanadian Patents and Patent Applications:

1,256,038	Method and Apparatus for Gas Separation and Synthesis
2,016,045	Gas Separation by Pressure Swing Adsorption
2,087,972-6	Extraction and Concentration of a Gas Component
2,087,973-4	Adsorptive Gas Separator with Inertial Energy Exchange
2,109,055	Thermally Coupled Pressure Swing Adsorption

U.S. Patents and Patent Applications:

4,702,903	Method and Apparatus for Gas Separation and Synthesis
4,816,121	Gas Phase Chemical Reactor
4,968,329	Pressure Swing Adsorption for Concentration of a Gas Component
5,082,473	Extraction and Concentration of a Gas Component
5,096,469	Adsorptive Gas Separator with Inertial Energy Exchange
5,256,172	Thermally Coupled Pressure Swing Adsorption
08/637,176	Flow Regulated Pressure Swing Adsorption System

European Patents:

0,143,537	Apparatus and Method for Gas Separation and Synthesis
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Doc No.: T8465098GEN

## RECORDATION FORM COVER SHEET

U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

## PATENTS ONLY

FORM PTO-1595 (Modified)  
(Rev. 04/05)  
OMB No. 0031-0011 (exp. 4/94)  
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P01VREV02

Tab settings → → → ▼ ▼ ▼ ▼ ▼

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):  
Sofinov Societe Financiere D'Innovation Inc.Additional names(s) of conveying party(ies) ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other \_\_\_\_\_

Execution Date: June 9, 1997

2. Name and address of receiving party(ies):

Name: Questor Industries Inc.Internal Address: 3650 Westbrook Mall, Vancouver, British  
Columbia, Canada, V6S 2L2Street Address: 3650 Westbrook Mall, Vancouver, British  
Columbia, Canada, V6S 2L2

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or registration numbers(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

A. Patent Application No.(s)

08/637,176 (Patent  
No. 6,063,161)

B. Patent No.(s)

4,702,903	4,816,121	4,968,329
5,082,473	5,096,469	5,256,172

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Robert GrahamInternal Address: Gowling Lafleur Henderson, Suite 4900Commerce Court West, Toronto, Ontario, Canada,M5L 1J3Street Address: As Above

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

6. Total number of applications and patents involved: 77. Total fee (37 CFR 3.41): .....\$ 280.00☒ Enclosed - Any excess or insufficiency should be credited or debited to deposit account☒ Authorized to be charged to deposit account

8. Deposit account number:

07-1750

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Robert Graham, Reg. No. 43,430

Name of Person Signing

Signature

27 Sept 2000

Date

Total number of pages including cover sheet, attachments, and document: 7

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